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ABSTRACT

Since current research and theory question many of the traditional methods and techniques of teaching vocabulary, a study was made to determine the content of 55 college vocabulary texts and the extent to which the content was consistent with empirical evidence. The study investigated the techniques used to teach word knowledge and whether they were additive or generative in nature. Additive or word specific approaches emphasize predetermined sets of words, while generative approaches emphasize strategies for vocabulary learning beyond specific instructional materials. Analyses revealed that 89% of the texts employed an additive philosophy. The most prevalent instructional category found was the use of word element exercises, most of which contained isolated drills focusing on short-term memorization of definitions for targeted words. Results indicated that only 38% of the texts included contextual analysis as a vocabulary strategy and that only six textbooks using this strategy employed a generative approach. Findings also revealed that dictionary/reference was a common instructional approach for vocabulary development in commercial materials. Learning words from lists was found to be by far the most common additive-type exercise. Based on these findings, it was recommended that postsecondary vocabulary development materials (1) encourage independent vocabulary development, (2) stimulate a deeper understanding of words studied, (3) use actual texts to teach contextual analysis, (4) organize words in semantically-related sets when using an additive approach, (5) promote long-term vocabulary learning, and (6) be scrutinized for validity by textbook authors. (A six-page reference list, a list of texts analyzed, the text assessment worksheets, and a master list of College Reading and Learning Assistance Technical Reports are appended.) (JD)

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Developing College Vocabulary:

A Content Analysis of Instructional Materials

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Abstract

Current research and theory question many of the traditional methods and techniques of teaching vocabulary. Yet textbocks designed to expand the vocabulary levels of post-secondary learners continue to proliferate. In light of the large number of vocabulary texts available for the college market as well as recent critical findings from research, the investigators undertook a study to determine the content of 55 college vocabulary texts and the extent to which the content was consistent with empirical evidence. Findings of the content analysis are detailed and recommendations for publication procedures are highlighted.

Developing College Vocabulary:
A Content Analysis of Instructional Materials

Though researchers since Terman (1918) have been examining the predictive relationship between a reader's word knowledge and ability to comprehend written discourse, it has just been within recent years that researchers have been able to experimentally verify that relationship (Beck, Perfetti, & McKeown, 1982; Kameenui, Carnine, & Freschi, 1982; S. Stahl, 1983). Yet, what is still poorly understood is how best to assess word knowledge or teach vocabulary acquisition strategies (Anderson & Freebody, 1981). Current research (e.g., Nagy, Herman, & Anderson, 1985; Mezynski, 1983; S. Stahl & Fairbanks, 1986) questions many traditional methods for teaching voccabulary and prevailing theories about the acquisition of word knowledge by students. Meanwhile, textbooks designed to build students' vocabularies continue to proliferate. This is especially true of vocabulary texts for the college reading and study-skills market. In light of the growing number of vocabulary materials for college readers and new, critical findings from research on vocabulary, it seemed appropriate to determine the nature of the content in college vocabulary texts and the extent to which the content is consistent with empirical evidence. For this purpose, the researchers employed content analysis.

Content Analysis Research

A content analysis is an intense, systematic scrutiny of a given piece or component of instructional material to determine its quantitative and qualitative characteristics (Borg & Gall, 1983). According to North, Holsti, Zaninovich, and Zinnes (1963), content analysis research involves: (a) reading documents and coding information into categories whereupon counts in frequency can be made, and (b) interpreting the findings in light of appropriate theory and research. Benefits of content analyses can be reaped by publishers, text developers, and researchers interested in improving instructional materials, as well as by practitioners and curriculum supervisors charged with the task of selecting and adopting new classroom texts and workbooks.

In recent years, nearly all content analysis-type research has been applied to texts, instructional manuals, or workbooks designed for various facets of primary or middle school reading instruction (cf. Beck, McKeown, McCaslin, & Burkes, 1979; Durkin, 1981; Hynd & Carter, 1983; Willow, Borwick, & Hayuren, 1981). However, little content analysis research on materials for college reading and study-skills instruction has been reported, in spite of the increasing volume of materials and the continually expanding college reading market. An extensive search of the literature led to the discovery of only seven previous content analyses of college reading and study-skills

texts, none of which were concerned with vocabulary texts (Bahe, 1970; Browning, 1976; Ironside, 1963; Laycock & Russell, 1941; Miller, 1957; Radencich & Schumm, 1984; Utsey, 1968). Taken together, these researchers came to the following conclusions: (a) a consensus across texts as to what constituted effective study methods did not exist; (b) research foundations for most of the advocated techniques were missing; (c) adequate instruction and practice for given skills or subskills were limited at best; (d) a questionable transfer value of many practice activities to actual reading and study tasks was observed; and, (e) reliance on anecdote, opinion, and intuition instead of statistical evidence was the norm.

An area of instruction for the college market that has thus far been ignored in previous content analysis research is vocabulary development. The need for research of this kind has never seemed greater when one considers how extensively commercial vocabulary materials are used. In one state alone, for instance, nearly all of the college and university skills programs utilized vocabulary texts in their reading study-skills offerings (N. Stahl & Brozo, 1984).

The study we describe in this paper involved a content analysis of 55 vocabulary texts available to the college reading specialist. In particular, we were interested in determining the type of instruction employed by the texts to teach word knowledge and whether these instructional techniques were of an <u>additive</u>

or generative nature. Additive or word specific approaches to vocabulary instruction emphasize the learning of a pre-determined set of words. Generative approaches, on the other hand, emphasize vocabulary learning strategies which permit students to increase or generate vocabulary levels beyond the specific instructional materials. S. Stahl (1983, 1985) and S. Stahl and Fairbanks (1986) have pointed out the importance of making the distinction between vocabulary methods that emphasize word lists and those that teach strategies for independently expanding word knowledge. They conclude from their research that generative vocabulary strategies when appropriately taught are superior to additive approaches in promoting transfer of word knowledge and improving students' understanding of text.

METHOD

Materials

Initially, a total of 78 vocabulary books were identified in Paper-bound Books in Print (Fall, 1982) and Subject Guide to Books in Print (1982). Later, duplicates and texts more germane to the teaching of English as a second language or adult basic reading were excluded from consideration, yielding a total of 50 books. Although some of the books were copyrighted as long as 30 years ago, all texts under review were currently available for use with college reading students. An additional set of five newly-issued texts were incorporated during the conduct

of the study, thus bringing the total to 55 vocabulary texts.

Coding Procedure

In developing the coding instrument for this content analysis, the researchers followed general guidelines found in several major texts on content analysis research (Berelson, 1952; Holsti, 1969; Krippendorff, 1980; Pool, 1959). The researchers estabished a broad category, Instructional Category, and then carefully analyzed 10 vocabulary texts to determine which informational or organizational units of the texts might identify or serve as subcategories. For instance, nearly all of the texts included chapters or even sections on the importance of mastering word elements (i.e., prefixes, suffixes, and roots). Consequently, word elements was selected as one of the 13 subcategories for instructional categories. Whenever feasible, the researchers used accepted definitions drawn from sources such as A Dictionary of Reading and Related Terms (Harris & Hodges, 1981) for defining the specific titles of each of the identified subcategories.

In the first step of the analysis, each of the 55 vocabulary texts was reviewed with the purpose of identifying and coding the units of content which corresponded to one of the subcategory definitions. In the second step of the analysis, we further categorized the exercises of each instructional category as either generative or additive.

The following operational definition, based upon research by Graves and Hammond (1979) and theory from Anderson and Freebody (1981), was formulated to characterize instructional exercises as generative:

1. Word element exercises in which students are asked to use their knowledge of prefixes, suffixes, or roots to determine the meaning of difficult or unknown words. Students might also be asked to write the correct definition in their own words, write an original sentence to demonstrate their understanding of the targeted word, or answer questions about the word.

2. Dictionary practice exercises in which students are asked to look up the meaning of a word they do not understand that was found in context and then: (a) write the appropriate definition, and/or (b) use the word in their own sentence, and/or (c) answer questions about the word.

3. Contextual clue exercises in which students are asked to determine and then produce the meaning of an unknown word that appears in an extended section of actual text. Students then might be asked to: (a) circle clue words for the meaning of the target word found across sentences and paragraphs, and/or (b) write the definition of the word, and/or (c) write another sentence using the word, and/or (d) answer questions about the word.

The following operational definition was used to characterize instructional exercises as additive:

1. Word lists accompanied by multiple choice or matching items.

2. Synonym/antonym exercises in which students write or select appropriate definitions from a list of alternatives.

3. Related words, content field words, descriptive words, foreign words, figures of speech, confused/misused words, and proper nouns in which students select appropriate meanings in matching and/or multiple choice tasks.

4. Pronunciation exercises in which students match words with their appropriate diacritical marks.

5. Word element exercises in which students write the definition of prefixes, suffixes, or roots presented in isolation, and/or write the definition of words they already know that contain specific word elements, and/or choose from alternatives the correct definition of a word containing a targeted prefix, suffix, or root.

6. Context clue exercises with words defined previous to the exercise so the context is redundant, and/or words in single sentence contexts in which students choose the definition for a targeted word from a list of alternatives.

7. Dictionary practice exercises in which students answer questions unrelated to a word's meaning (e.g., how many syllables in a given word), and/or look up lists of words that they may or may not already know.

The textbooks which contained some generative and some

additive exercises and instructional units were classified as "mixed."

Two of the researchers independently categorized exercises, instructional units, and entire textbooks utilizing the above criteria . Upon completing the 55 analyses, each book was once again reviewed to determine whether any content units had been overlooked. At the same time, a third researcher completed several analyses of randomly selected texts previously reviewed by the other two researchers. The researchers were concerned that agreement on definitions of subcategories and approaches might not have carried over the many months' duration of the investigation. However, in comparing the analyses from the three researchers and the results of the second review of the texts, judgements were similar 94% of the time. The few disagreements were reconciled through discussion.

While the results of these analyses are based on judgments and thus are somewhat subjective, Berelson (1952) pointed out that in investigations where there is high agreement on the definitions of the relevant categories, there will be little difficulty achieving validity in content analysis data.

RESULTS AND DISCUSSION

The content analysis of the exercises for each instructional category revealed that additive approaches predominate. Of the 55 textbooks, 45 had an overall additive philosophy, three had a

generative philosophy and seven possessed a combination of additive and generative approaches. Even the three vocabulary approaches that would appear to have the greatest generative potential (word elements, context clues, and dictionary use) were treated by most of the textbook authors as additive (see Table 1). In this next section the results of the content analysis for word elements, contextual analysis, and dictionary/reference use will be discussed further.

Insert Table 1 about here

Word elements or affixes. In the books analyzed, the use of word elements was the most prevalent instructional category (44 texts, 80%). The popularity of teaching word elements has been corroborated by N. Stahl and Brozo's (1984) survey of 97 post-secondary institutions in Georgia. It would appear, then, that the teaching of word elements is a college reading tradition. Oddly enough, there is little empirical research, at any age level, to support the teaching of word elements as a method for vocabulary development (Graves & Hammond, 1979; Jenkins & Dixon, 1983).

As indicated in Table 1, 34 out of the 44 vocabulary textbooks contained word elements exercises that were additive in their approach (see operational definitions). These exercises emphasized isolated drills focusing on short-term memorization of

definitions for targeted words containing prefixes, suffixes, or roots. Only 10 of the textbooks sought to capitalize upon the generative potential of word elements. These few texts provided the students with guided instruction on how to apply and transfer their knowledge of word elements to everyday, naturally occuring reading situations.

In addition to the recurrent sentence completion and matching exercises found among the 55 texts, there were other exercise formats pertaining to word elements that seemed to have little relevance to determining a word's meaning. For example, students were asked to draw a line between a prefix and the other elements of a word (e.g., bicep, akin). Under the guise of using prefixes to unlock the meanings of difficult words, other exercises asked students to use their dictionaries to determine which words had prefixes and which represented some other kind of formation. Notice that in this type of an exercise the student is not asked to locate or master the word's definition. Other textbook authors asked students to practice their knowledge of prefixes on commonly known words such as "bicycle" and "triangle" instead of providing practice for applying knowledge of prefixes to derive the meanings of new words.

Writers of vocabulary textbooks might provide more effective instruction in using word elements to build word knowledge by incorporating some of the intensive transfer lessons advocated by Graves and Hammond (1979) into their instructional paradigms.

These lessons are teacher-directed, carefully sequenced, and inductive requiring students to: (a) determine the meaning of words containing a prefix, (b) identify a prefix and its meaning, (c) note how the meaning of a prefix contributes to the meaning of the targeted word, and (d) discuss sentences which include new words containing the previously presented prefixes and then define these new target words. Rather than evaluating the effectiveness of this instruction by asking students to define a list of pre-taught words, as did most of the textbooks in our analysis, Graves and Hammond devised a test to measure the generative potential of word elements and the effectiveness of their instruction. Students were asked to define difficult unknown words which had not been pre-taught but contained the targeted prefixes.

The information gleaned from this aspect of the content analysis suggests that college reading specialists who use commercial vocabulary materials will need to develop, teach, and evaluate their own transfer lessons if students are to benefit from the generative potential of learning word elements as a strategy for promoting vocabulary growth.

Contextual analysis. Of the 55 texts analyzed, 21 (38%) included contextual analysis as a vocabulary strategy. While contextual analysis is another potential generative vocabulary strategy, only six textbooks that included instruction in context clues could be categorized as generative. In the other books

virtually no provisions were made to help students transfer their understanding of contextual analysis from the exercises to the students' own reading material. Instead of asking students to identify clues in sentences or clues across sentences and paragraphs and then to derive the meaning of new and difficult words based on these clues, students were asked to determine the meaning of a word by selecting from alternatives, as typified by the following example:

> The gist or heart of the lawyer's defense was that his client could not have murdered his wife because he was locked inside a closet at the time.
>
> a) core c) verdict
>
> b) conclusion d) reason

Furthermore, the related examples and practice activities designed to promote word knowledge from context were presented in highly contrived and artificial sentences so that the reader would receive ample clues to discover the meaning of a given word, as in the example below:

> A paragraph should be concise and direct rather than wordy and roundabout.

Both examples demonstrate that such an instructional approach leaves the student with the false assumption that "real" text is equally generous in providing clues to the meaning of unknown words.

The few exercises that were generative in nature typically

employed extended pieces of prose drawn from literature and content-area textbooks. These exercises also required students to define the meaning of the words on their own, often asking them to defend their decisions by providing clues from the passage. A few exercises required students to write a sentence for each word that they had learned from contextual analysis as a means of further checking their understanding. In only one vocabulary book, however, were students instructed to use their own textbooks and other reading material to locate unknown words and to use the naturally occurring context clues to determine word meanings. Thus, college reading specialists should not assume that content pertaining to contextual analysis in college vocabulary textbooks will provide appropriate generative instruction (Baldwin & Schatz, 1985).

Vocabulary instruction should be designed in such a way as to provide students with multiple exposures of a word in multiple contexts (Nagy, Herman, & Anderson, 1985). For instance, students could read extended prose passages from several psychology textbooks that discuss the concept "confabulation " then generate a comprehensive definition. In another approach, students could read about the word "depression " from relevant passages in geology, psychology, and economics. Afterward, they could be given a topic and asked to develop an essay in which the word is used accurately in context. Finally, authors of vocabulary materials should present the

difficulties of using context to discover the meanings of many words, especially content vocabulary, in an honest manner. Instead of filling their books with exercises that drill students in the identification of various types of context clues--a highly questionable approach in light of findings by Baldwin and Schatz (1985)--authors of vocabulary books should discuss the realistic limitations of using contextual analysis to unlock meanings of low-frequency, technical vocabulary found in college textbooks.

Dictionary/reference use. Among the commercial materials, dictionary/reference use was a very common instructional approach for vocabulary development. But while 24 texts (44%) covered the dictionary as a reference for discovering word meanings, only three textbooks promoted this strategy in a manner that could be classified as generative. The directions to the two exercises below typify these generative activities:

(a) Use a textbook from another course and find five words you need to learn. List the words below, copy the sentence in which you found each word, and credit the source. Then look up each word in the dictionary. Explain its meaning according to the way the word is used in the sentence.

(b) Read the paragraphs below. Then explain the meaning of each of the words that is listed after each set of paragraphs. If you already know the meaning of the word or

> can tell its meaning from the sentence of passage, explain the word without using the dictionary. If you do not know the meaning of the word, look it up and fill in the information located below.

Unfortunately, most vocabulary textbook authors chose to emphasize non-meaning oriented activities such as requiring students to interpret diacriticl markings, circle silent consonants, or give plurals of nouns. The directions below and the activity it introduces are in direct contrast to the meaning-oriented directions and exercises previously cited:

> Copy from the dictionary the syllabication of the following words.
>
> (a long list of words is presented)

The above example represents the kind of exercises college students have grown quite use to--worksheet activities. These questionable exercises might be easily replaced by more relevant and useful tasks that require students to select the most appropriate dictionary definition for a specific context, or to compare and contrast different dictionary entries, or to utilize the thesaurus. Interestingly enough, only seven of the 55 textbooks contained any information on the thesaurus, indeed a very important reference for college students.

Though the research (see S. Stahl & Fairbanks, 1986) would

support a student possessing both the definitional and contextual understanding of a word, this content analysis revealed that the commercial vocabulary texts relied heavily upon exercises that developed only simple definitional word knowledge. This is not to suggest that vocabulary textbook writers should not present and college reading specialists should not teach the dictionary as a reference. Rather, we would argue for a better balance between the dimensions of word knowledge as reflected in the types of activities designed to increase a student's vocabulary understanding.

In summary, the researchers determined that for most of the vocabulary texts analyzed, the generative potential of the three strategies discussed above was lost to irrelevant or invalid exercises. Instead, instructional content should have been devoted to exercises that directed students to transfer their knowledge of word elements, contextual clues, and dictionary/reference use to their own reading materials.

Additive Vocabulary Approaches

The researchers were struck by the preponderance of additive approaches to teaching word knowledge found among the analyzed vocabulary books (see Table 1). By far the most common additive-type exercises involved learning words from lists. In fact, a full 22% (12 books) taught words exclusively from lists followed by quizzes. When textbook authors and college instructors determine that a specific set of words should be

taught to a group of students, they have made several a priori assumptions about the vocabulary instructional process. First, they assume that the chosen words have a high enough frequency that students mastering the definitions will perform better in subsequent reading. However, such a master list of words has yet to be developed and validated for instructional use at the postsecondary level. A more questionable assumption is that words taught in isolation or from a list possess both generic and static meanings, regardless of the context in which they appear. Yet research findings would suggest that the memorization of a definition is not equivalent to full concept knowledge (Dixon & Jenkins, 1984) which enables students to understand how the concept a word represents changes in different contexts (S. Stahl, 1985).

With rare exception, the exercises that accompanied the word lists were memory-oriented, multiple-choice, matching, or completion tasks. Rarely were students asked to demonstrate their understanding of the words from lists on transfer tasks such as writing a sentence of their own in which the word is used correctly.

Neither the assumptions underlying the teaching of vocabulary from word lists nor the research which has investigated its impact upon student learning, particularly at the postsecondary level, has been encouraging. Though it should be noted that while additive vocabulary strategies are not

inherently detrimental, they should comprise only one small part of an effective and comprehensive vocabulary program (Kameenui, Dixon, & Carnine, in press).

RECOMMENDATIONS

Enough information can be gleaned from this content analysis to warrant several recommendations for vocabulary development at the postsecondary level.

1. Materials should encourage students to independently develop their vocabularies. Regardless of whether the materials used with students are additive or generative, they should encourage and support the life-long habit of vocabulary acquisition. Students, especially remedial or developmental readers, must realize that there is no quick fix for a deficient vocabulary. Yet, when college students are encouraged to select their own words of study, they not only can make significant gains on standardized measures (Gnewuch, 1973), but they also can increase their interest in vocabulary acquisition (Haggard, 1984). Hence, a case for independent and long-term vocabulary development needs to be stated not only in the preface of every text, but in every chapter as well. In addition to rhetoric exhorting the students to independently expand word knowledge, texts should also provide specific practical methods for students to collect and organize their own words.

Based on the content analysis it would seem that only a few

authors considered self-development of word knowledge a worthy topic. In fact, only two authors suggested that students maintain a vocabulary notebook, while another nine recommended the collection of word cards similar to the Frontier System of vocabulary development (Pauk, 1974). In another four vocabulary books, the readers were asked to find and to list on cards 10 words they wished to master from their own college textbooks. In spite of these few attempts to develop independence in expanding vocabularies, most authors of vocabulary texts preferred traditional workbook-type activities that can be completed and corrected easily by many students at once. Until authors realize the importance of incorporating strategies that would encourage and reward students for learning words that are meaningful to them, college reading specialists should consider employing such strategies as Haggard's (1982) Self-Collection Strategy.

2. Materials should stimulate students' deeper levels of understanding about each word of study. In most of the 55 analyzed books, students demonstrated their understanding of words by matching or choosing definitions. Dixon and Jenkins (1984) believe that when learners pair word labels to definitions, they are demonstrating a verbal association level of vocabulary knowledge which, at best, will produce a negligible impact on subsequent reading comprehension. Hence, authors and teachers should provide exercises that stimulate the generation of novel contexts or definitions for the words under study (S.

Stahl, 1983). These exercises should ask students to: (a) put definitions in their own words, (b) write original sentences, (c) create categories for words in lists, and (d) answer thought-provoking questions about the targeted words. For example, Licklider (1981) in Building a College Vocabulary posed the following questions about words previously defined:

(a) Why would we say that the United Nations is a multinational organization?

(b) Why are the earth's air, land, and water sometimes given the single name of biosphere?

Unfortunately, this exercise format was practically nonexistent among the analyzed vocabulary texts. Until textbook authors move beyond the practice of promoting mere verbal associations in predictable and easy-to-correct formats, college reading specialists will need to develop exercises to move students to deeper levels of word knowledge.

3. Materials should teach contextual analysis with actual texts. While over one third of the 55 textbooks devoted some space to contextual analysis, less than 10% of those used extended discourse from actual texts as the practice materials. The following example is all too typical of the artifically-contrived practice sentences found in the vocabulary materials:

Under questioning, Lee broke down and confessed the murder.

This sentence is obviously contextually rich; yet it is also

highly artificial. Students grappling with contextual analysis as a vocabulary strategy would reap greater benefit if authors would select actual passages from college-level reading materials for practice. Then students would learn to cope with contexts, to lean on clues and to read across sentences and paragraphs to piece together meanings of words. Texts such as Licklider (1981), DeVitis and Warner (1966), and Zuckerman (1980) come as close as any of the the vocabulary books to meeting this recommendation since these texts include paragraphs and extended citations from literature and college-level content-area textbooks. Unfortunately, only the Licklider text is still in print.

4. Materials which emphasize the mastery list or additive approach to vocabulary development should organize words in semantically-related sets. Most of the 55 vocabulary books provided students a list of the targeted words at the beginning of each chapter. Students were then expected to learn these long lists of words by the end of the chapter. Of course, the research for such an approach to college-level vocabulary development, especially on the long-term basis (Fairbanks, 1977), is not very promising. Some textbooks, however, introduced the new words to the students via a content or a semantic set, much like the research studies conducted by Beck and her colleagues (e.g. Beck, Perfetti, & McKeown, 1982; McKeown, Beck, Omanson, & Perfetti, 1983) which have achieved very favorable results. In

Gordon's (1985) text, for instance, the master list of words was organized around excerpts from history, psychology, philosophy, and literature textbooks as well as from newspapers. Others like Roloff, Brosseit, and Carrick (1981) introduced the targeted words around topics such as "words about work," "words about action," "words about ideas," "words about people," and "words about feelings." If authors feel compelled to emphasize the additive approach to vocabulary acquisition, they should consider employing a unifying context which will assist students in remembering both the definitional and contextual aspects of each targeted word. Such an approach should also assist students in moving beyond the verbal association level of word knowledge.

5. Materials should incorporate mnemonic devices and rehearsal guidelines to promote long-term vocabulary learning. Only five textbooks offered discussions about and practice with mnemonic devices or rehearsal guidelines. This finding is especially surprising considering the respected history of the keyword research (Pressley, Levine, & Miller, 1981,1982) emphasizing visual imagery as a means for remembering a word's definition, or the time-honored learning principles of self-recitation and distributed practice (Gates, 1917; Peterson, 1944; Spitzer, 1939). Maker and Lenier (1982) and Lenier and Maker (1982) did include in both their texts an entire chapter on the importance of word memory techniques such as word association, visual association, rhyming, and cumulative review.

In the future, other textbook authors and college reading professionals should seriously consider including such word memory techniques as an integral part of the vocabulary curriculum.

6. Textbook authors should carefully scrutinize the validity of each exercise format. Many exercises which purport to teach or reinforce a certain skill do not, in fact, do so. An example will illustrate this point. A very common exercise format presented a list of words along with their definitions at the beginning of a chapter. Then, under the pretext of practicing contextual analysis, the students are given a sentence with an underlined word (one of the words previously defined at the beginning of the chapter); next, they are asked to define the word or select the best definition of the word from four alternatives. Instead of practicing contextual analysis, the exercise requires simple recall and matching. This trend was found in almost every textbook across all the instructional categories. In fact, most of the strategies with generative potential (i.e., word elements, contextual analysis, and dictionary/reference use) were not classified as generative by the researchers because of the invalid reinforcement exercises. Authors need to carefully construct exercises that reinforce the skills being taught, and college reading specialists need to be concerned by the fact that when their students successfully complete an exercise, they may not have mastered a vocabulary

strategy at all. Instead, they may have only mastered an exercise format.

CONCLUSION

While the essence of any content analysis rests inherently in the present (i.e., the population of texts currently on the market), the value of any content analysis research is for the design and publication of quality material, in this case, for future generations of postsecondary learners. In order to accomplish such a lofty goal, we propose a model of institutional material development in which researchers, authors, reviewers, editors, and classroom instructors cooperatively interact. In brief, researchers in vocabulary acquisition have the duty to disseminate their findings as widely and cogently as possible. It is the responsibility of authors then to understand and utilize valid research findings that are applicable to the population of learners who will use the text. The reviewer must act as the quality control agent in the process of developing new materials. In this case, the reviewer must insist that materials are based upon the characterisitics of effective vocabulary instruction rather than tradition-based approaches. Not to be forgotten, the editor has the ultimate responsibility of producing a quality vocabulary program based on solid research findings, as opposed to the factors of marketability. Instructors form the final component of the development model, as

they are the ultimate evaluators in their role as daily consumers. They have the responsibility of providing on-going feedback on the materials' effectiveness to the publisher, who in turn should pass this information on to the other members of the team. With such cooperative teamwork, postsecondary vocabulary materials would be more likely to reflect research-based vocabulary instruction. Unfortunately, this is not the case in 1986.

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TABLE ONE
Instructional Approaches in Postsecondary Vocabulary Texts

Instructional Category	Number & Percentage of Texts Offering Instruction (N=55)		Number & Percentage of Texts Featuring Additive Approaches[1]		Number & Percentage of Texts Featuring Generative Approaches[1]		Number & Percentage of Texts Featuring Mixed Approaches[1]	
Word Elements (G)	44	(80%)	34	(77%)	4	(09%)	6	(14%)
Dictionary/Reference (G)	24	(44%)	16	(67%)	3	(12%)	5	(21%)
Context Clues (G)	21	(38%)	12	(57%)	6	(29%)	3	(14%)
Pronunciation (A)	20	(36%)	20	(100%)	0		0	
Confused/Misused Words (A)	18	(33%)	18	(100%)	0		0	
Related Words (A)	17	(31%)	17	(100%)	0		0	
Historical Contexts (A)	17	(31%)	17	(100%)	0		0	
Foreign Words (A)	16	(29%)	16	(100%)	0		0	
Descriptive Words (A)	15	(27%)	15	(100%)	0		0	
Figures of Speech (A)	15	(27%)	15	(100%)	0		0	
Content Field (A)	13	(24%)	13	(100%)	0		0	
Proper Nouns (A)	11	(20%)	11	(100%)	0		0	
Synonym/Antonym (A)	11	(20%)	11	(100%)	0		0	
Other (A)	38	(69%)	36	(95%)	0		2	(05%)

[1]Percentage totals in columns 3, 4, and 5 are based on the total number of books offering a particular instructional category.

(G) generative classification
(A) additive classification

APPENDIX

Postsecondary Vocabulary Books Under Analysis

The 55 vocabulary books which were considered in this content analysis are listed below. Each entry includes standard bibliographic information such as author, publication date, title, publisher, and publication site. Also included are the number of pages and, whenever possible to determine, the number of words or word elements in the text. Each book is classified as a workbook (w), textbook (te), popular press/trade book (pp), or programmed instruction (pi).

Brengelman, F. (1980). Understanding words: Systematic spelling and vocabulary building (w). Dubuque, IA: Kendall/Hunt, 93 pp. (1,368 words, 456 word elements).

Bromberg, M., & Gale, C. (1979). Building an effective vocabulary (w). Woodbury, NY: Barron's, 250 pp. (345 tested words).

Bromberg, M., & Gordon, M. (1971). 1100 words you need to know (w). Woodbury, NY: Barron's, 252 pp. (920 words, 184 idioms).

Bromberg, M., & Liebb, J. (1979). Words with flair (w). Woodbury, NY: Barron's, 218 pp. (600 words).

Brown, J. I. (1980). Programmed vocabulary (3rd ed.) (pi). Englewood Cliffs, NJ: Prentice-Hall, 261 pp. (34 word elements).

Brownstein, S. C., & Weiner, M. (1979). Basic word list (pp). Woodbury, NY: Barron's, 220 pp. (2,100 words, 232 word elements).

Conlin, M. L. (1978). Concepts of communication: Reading-vocabulary module (w). Boston: Houghton Mifflin, 160 pp. (number of words not determined).

Cronin, M. J. (1981). Vocabulary 1000 with words in context (pi). New York: Harcourt Brace Jovanovich, 180 pp. (1,031 words, 200 word elements).

Davis, N. (1979). Vocabulary improvement: A program for self-instruction (pi). New York: McGraw-Hill, 210 pp. (1,465 words, 406 word elements).

Ehrlich, E., & Murphy, D. (1975). Basic vocabulary builder (pp). New York: McGraw-Hill, 187 pp. (413 words).

Evans, B. (1963, 1984). The word-a-day vocabulary builder (pp). New York: Ballantine, 147 pp. (858 words and forms).

Feinstein, G. W. (1979). Programmed college vocabulary 3600 (pi). Englewood Cliffs, NJ: Prentice-Hall, 327 pp. (2,325 words, 244 word elements)

Funk, P. (1968, 1981). It pays to increase your word power (pp). New York: Bantam Books, 193 pp. (295 words).

Funk, P., & Tarshis, B. (1982). Word memory power in 30 days (pp). New York: Dell, 287 pp. (220 words).

Funk, W. (1953, 1955). Six weeks to words of power (pp). New York: Pocket Books, 278 pp. (748 words).

Funk, W., & Lewis, N. (1971). 30 days to a more powerful vocabulary (pp). New York: Pocket Books, 244 pp. (244 words).

Glazier, T. F. (1981). The least you should know about vocabulary building - Word roots (w). New York: Holt, Rinehart & Winston, 179 pp. (890 words, 194 word elements).

Gordon, H. H. (1985). Wordforms context, strategies and practice: Book 1 (w). Belmont, CA: Wadsworth, 257 pp. (559 words, 387 word elements).

Gordon, H. H. (1985). Wordforms context, strategies and practice: Book 2 (w). Belmont, CA: Wadsworth, 260 pp. (732 words, 387 word elements).

Haller, M. A. (1982). Essential vocabulary for college bound students (w). New York: Arco, 200 pp. (903 words).

Hart, A. (1939, 1964). Twelve ways to build a vocabulary (pp). New York: Barnes & Noble, 183 pp. (250 words, 74 word elements).

Henley, E. F. (1978). Vocabulary building at the college level (w). Dubuque, IA: Kendall/Hunt, 247 pp. (1,312 words).

Henley, E. F. (1980). Words for reading - Reading for words (w). Englewood Cliffs, NJ: Prentice-Hall, 275 pp. (1,365 words, 172 word elements).

Hymanson, M. C. (1981). Conncections and contexts: A basic vocabulary (w). New York: Harcourt Brace Jovanovich, 372 pp. (468 word elements).

Jennings, C., King, N., & Stevenson, M. (1980). New York: Harper & Row, 203 pp.

Kesselman-Turkel, J., & Peterson, F. (1982). The vocabulary builder: The practically painless way to a larger vocabulary (w). Chicago: Contemporary Books, 150 pp. (632 words).

Lee, D. W. (1970). Harbrace vocabulary guide (2nd ed.) (w). New York: Harcourt Brace Jovanovich, 184 pp. (number of words not determined).

Levine, H., & Levine, R. (1980). Vocabulary resources for the college student (w). New York: Amsco, 257 pp. (1,575 words).

Levine, H., & Levine, R. (1981). Vocabulary foundations for the college student (w). New York: Amsco, 255 pp. (1,173 words).

Lewick-Wallace, M. (1981). Vocabulary building and word study (pi). New York: McGraw-Hill, 328 pp. (41 word elements).

Lewis, N. (1951, 1979, 1980). Rapid vocabulary builder (w). New York: Grosset-Dunlap, 90 pp. (130 words, 160 derived forms, 45 word elements).

Lewis, N. (1981). Instant word power (pi). New York: New American Library, 386 pp. (585 words, 171 word elements). Also (1982), New York: Amsco, 310 pp.

Licklider, P. (1981). Building a college vocabulary (w). Boston: Little, Brown, 269 pp. (239 word elements).

Maker, J., & Lanier, M. (1982). Keys to a powerful vocabulary - Level I (w). Englewood Cliffs, NJ: Prentice-Hall, 235 pp. (440 words).

Maker, J., & Lanier, M. (1983). Keys to a powerful vocabulary - Level II (w). Englewood Cliffs, NJ: Prentice-Hall, 229 pp. (440 words).

Morris, W. (1957, 1975). It's easy to increase your vocabulary (pp). New York: Penguin Books, 245 pp. (850 words).

Morris, W. (1970, 1975, 1977). Your heritage of words (pp). New York: Dell, 182 pp. (997 words).

Nurnberg, M. (1981). I always look up the word "egregious": A vocabulary book for people who don't need one (te). Englewood Cliffs, NJ: Prentice-Hall, 290 pp. (754 words).

Nurnberg, M., & Rosenblum, M. (1983). How to build a better vocabulary (pp). New York: Warner, 384 pp. (597 words).

Paternoster, L. M., & Frager, R. L. (1971, 1976). Three dimensions of vocabulary growth (w). New York: Amsco, 261 pp. (823 words, 62 word elements).

Peet, H. D., & Coomber, J. E. (1984). Vocabulary for college reading and writing (w). Palo Alto, CA: Science Research Associates, 246 pp. (503 words, 52 word elements).

Perry, D. J., & Silverthorn, J. E. (1977). College vocabulary building (6th ed.) (w). Cincinnati, OH: South-Western, 191 pp. (5,000 words).

Price, A. R. (1973). Develop your vocabulary (w). Dubuque, IA: Wm. C. Brown, 254 pp. (174 words, 138 word elements).

Roloff, J. G., Brosseit, V., & Carrick, W. E. (1981). Vocabulary (w). New York: Macmillan, 274 pp. (448 words, 79 word elements).

Romine, J. S. (1975). Vocabulary for adults (pi). New York: Wiley, 221 pp. (193 word elements).

Roth, A., & Camacho, D. (1972). Words people use (w). Cambridge, MA: Winthrop, 358 pp. (500 words, 63 primary roots).

Rubin, D. (1982). Vocabulary expansion I (w). New York: Macmillan, 340 pp. (702 words, 257 word elements).

Rubin, D. (1982). Vocabulary expansion II (w). New York: Macmillan, 248 pp. (273 words, 32 word elements).

Salmi, E. (1985). Vocabulary workbook to accompany 100 passages to develop reading comprehension (w). Baltimore, MD: College Skills Center, 112 pp. (300 words).

Shepherd, J. F. (1983). College vocabulary skills (2nd ed.) (w). Boston: Houghton Mifflin, 244 pp. (803 words).

Smith, E. (1979). Contemporary vocabulary (w). New York: St. Martin's Press, 354 pp. (1,100 words, 218 word elements).

Sweet, W. E., & Knudsvig, G. M. (1982). A course on words (pi). New York: Harcourt Brace Jovanovich, 353 pp. (771 words).

Waldhorn, A., & Zeiger, A. (1955, 1957). Word mastery made simple (w). Garden City, NY: Doubleday, 192 pp. (1,355 words, 280 word elements).

Walker, T. (1979, 1982). Word resources (Rev. ed.) (te). Indianapolis, IN: Bobbs-Merrill, 276 pp. (765 words, 77 word elements).

Zuckerman, M. (1980). Words, words, words: An English vocabulary builder and anthology (te). Encino, CA: Glencoe, 362 pp. (800 words, 384 word elements).

VOCABULARY TEXT ASSESSMENT

Title of text: _____

Author: _____ Text Format: Workbook: _____

Publisher: _____ Programmed Instruction ____

Date: _____ Popular Press: _____

Cost: _____ Text with Exercises: _____

Pages: _____ Instructor's Manual: _____

Comment: _____

#Words in Text: _____ # Words Per Chapter: _____

Word Elements: _____ # Word Elements per Chapter: _____

Assessment Procedure: Diagnostic Pretest: ____ PrePost: ____ Final Test: ___

Section Tests: _____ Chapter Tests: _____ Other: _____

Instructional Categories: Related Words:____ Content Field: _____

Descriptive Words: _____ Word Elements: ____ Figures of Speech: _____

Confused or Misused Words: _____ Historical Contexts: ____ Foreign Words:___

Proper Nouns: _____ Dictionary/References: _____ Pronounciation: _____

Words in Context: _____ Synonym Antonym: _____ Other: _____

Instructional Activities: Matching: ____ Sentence Fill-ins: ___ Word Puzzles: __

Word Element Fill-ins: ____ Synonym Antonym: _____ True-False: _____

Multiple Choice: _____ Words in Context: _____ Definitions: _____

Word Elements: _____ Word Scramble: _____ Analogies: ____ Parts of Speech: ___

Sentence Usage: _____ Other: _____

Other:

Grade Level of Sample Words: _____ Familiarity Score of Sample Words: _____

Comments:

CONTENT ANALYSIS OF VOCABULARY TEXTBOOKS

1. Which type of word information is emphasized during instruction?
   _____ definitional information
   _____ both definitional and contextual information with more stress on the latter

2. How are the words presented to the students?
   _____ word level
   _____ sentence level
   _____ whole text level

3. How does the instruction use the prior knowledge of the students?

4. What levels of processing are students asked to perform as they participate in the instruction?
   _____ memorization or association
   _____ generation
   Give an example:

5. In what setting does the instruction take place?
   _____ individualized or self-paced
   _____ mixed settings with student-teacher and student-student interactions

6. How many encounters does a student have with a word in different contexts?

   How many reviews are provided?
   _____ one before the test
   _____ cumulative review throughout the text

7. How is vocabulary acquisition or knowledge measured?

8. What vocabulary strategies are included? List them.

9. Is the text predominantly additive or generative? Explain why.

10. Which philosophy (aptitude, access, instrumental, knowledge) does the text adhere to?

11. Rate this text as to its usefulness with college students:

    Excellent
    Average
    Forget it

Master List
College Reading and Learning Assistance Technical Reports
Georgia State University

Technical Report No.	
84-01	Brozo, W.G., Schmelzer, R.V., & Spires, N.A. A Study of Test Wiseness Clues in College/University Teacher-Made Tests with Implications for Academic Assistance Centers. (ERIC No. ED 240-928)
84-02	Stahl, N.A., Brozo, W.G., & Henk, W.A. Evaluative Criteria for College Reading-Study Research. (ERIC No. ED 240-933)
84-03	Schmelzer, R.V., Brozo, W.G., & Stahl, N.A. Using a Learning Model to Integrate Study Skills into a Peer-Tutoring Program. (ERIC No. ED 256-244)
84-04	Brozo, W.G., & Stahl, N.A. Focusing on standards: A Checklist for rating Competencies of College Reading Specialists. (ERIC No. ED 248-762)
84-05	Stahl, N.A., Brozo, W.G., & Gordon, B. The Professional Preparation of College Reading and Study Skills Specialists. (ERIC No. ED 248-761)
84-06	Stahl, N.A., & Brozo, W.G. Vocabulary Instruction in Georgia's Post-secondary Reading Programs. (ERIC No. ED 248-759)
84-07	King, J.R., Stahl, N.A., & Brozo, W.G. Integrating Study Skills and Orientation Courses. (ERIC No. ED 248-760)
84-08	Brozo, W.G., & Schmelzer, R.V. Faculty Perceptions of Student Behaviors: A Comparison of Two Universities. (Not Submitted to ERIC--See the Journal of College Student Personnel, Vol 26, #3)
84-09	Henk, W.A., Stahl, N.A., & King, J.R. The Readability of State Drivers' Manual. (Not submitted to ERIC--please refer to Transportation Quarterly, 38(4), 507-520.)
84-10	Stahl, N.A., Henk, W.A., & King, J.R. Are Drivers' Manuals Right for Reluctant Readers? (ERIC No. ED 245-208)
85-01	Stahl, N.A., Hynd, C.R., & Henk, W.A. Avenues for Chronicling and Researching the History of College Reading and Study Skills Instruction. (ERIC No. ED 256-245)
85-02	Smith, B.D., & Elifson, J.M. Do Pictures Make a Difference in College Textbooks? (ERIC No. ED 256-246)

85-03 Brozo, W.G., Stahl, N.A., & Gordon, B. Training Effects of Summarizing, Item Writing, and Knowledge of Sources on Reading Test Performance., (ERIC No. ED 256-247)

85-04 Brozo, W.G. Teaching Students to Recognize and Manipulate Structures of Cohesion. (ERIC No. ED 256-248)

85-05 Henk, W.A., & Stahl, N.A. A Meta-Analysis of the Effect of Notetaking on Learning from Lecture. (ERIC No. ED 258-533)

85-06 King, J.R. & Stahl, N.A. Training and Evaluating Notetaking. (ERIC No. ED 263-537)

85-07 Chase, N.D. Reader Response Techniques for Teaching Secondary and Post-Secondary Reading. (ERIC No. ED 263-535)

85-08 Hynd, C.R. & Alvermann, D.E. The Role of Refutation Text in Overcoming Difficulty with Science Concepts. (ERIC No. ED 264-525)

85-09 Best, P.A. & Brozo, W.G. Current Research on Studying: A Qualitative Analysis. (ERIC No. 263-534)

85-10 Stahl, N.A., Henk, W.A., Brozo, W.G., & Sickele, M. Developing Independent Learners: Strategies and Tactics for Mastery of Text (ERIC No. ED 263-536)

85-11 King, J.R., Stahl, N.A., & Brozo, W.G. Quality Assessments of Prospective Teachers: Surveys of Previous and Present Practices. (ERIC No. ED 266-133)

86-01 Hynd, C.R., Chase, N.D., Stahl, N.A. & Smith, B. Reader Response in the College Developmental Classroom. (ERIC No. ED 270-729)

86-02 Stahl, N.A., & Henk, W.A. Tracing the Roots of Textbook Study Systems: An Extended Historical Perspective. (ERIC No. ED 270-723)

86-03 Brozo, W.G., & Tomlinson, C.M. Literature: The Key to Lively Content Courses. (ERIC No. 271-720)

86-04 Brozo, W.G., & Johns, J.L. A Content Analysis of Forty Speed-Reading Books (ERIC NO. 270-724)

86-05 Hynd, C.R., Stahl, N.A., & Whitehead, E.H. Computers in the College Reading Program: A Basic Primer. (ERIC No. ED 269-753)

86-06 Singer, M., & Etter-Lewis, G. Personality Type and College Reading Comprehension. (ERIC Document Reproduction pending)